

### REMARKS

Claims 1, 4-23, and 33-42 are pending in the application. Of these, claims 1, 18, and 33 are independent.<sup>1</sup> Favorable reconsideration and further examination are respectfully requested.

The Examiner rejected claims 1, 4-6, 10-13, 18-22, and 33-42 under 35 U.S.C. § 103(a) as being unpatentable over Menashi, U.S. Patent Application Publication No. 2003/0022055 A1 ("Menashi") in view of Belmont et al., U.S. Patent No. 5,851,280 ("Belmont"). The Examiner also rejected claims 14-17 under 35 U.S.C. § 103(a) as being unpatentable over Menashi in view of Belmont.

The Examiner stated the following in rejecting claims 1, 4-6, 10-13, 18-22, and 33-42:<sup>2</sup>

As evidenced by Belmont et al, which is incorporated by reference by the Menashi reference, it also discloses carbon black (diffusion layer) having an organic group attached to the carbon black, wherein the organic group may be an aliphatic group than includes alkenes (alkenyl moiety) and a functional group that includes COOH, SO<sub>3</sub>H, or H<sub>2</sub>PO<sub>3</sub> (See column 6, lines 4-43).

However, Menashi does not expressly teach a sulfonic acid moiety covalently bonded to the fuel cell diffusion layer, wherein the sulfonic acid moiety has the formula RSO<sub>3</sub>H, and wherein R is an alkenyl moiety substituted with halogen or an alkenyl moiety substituted with fluorine.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Menashi fuel cell diffusion layer to include a sulfonic acid moiety covalently bonded to the fuel cell diffusion layer, wherein the sulfonic acid moiety has the formula RSO<sub>3</sub>H, and wherein R is an alkenyl moiety substituted with halogen or an alkenyl moiety substituted with fluorine because the substitution of a halogen for a hydrogen was held to have been obvious (*Ex parte Dole* 119 USPQ 260 (PO BdPatApp 1957)).

Thus, in reaching the conclusion that the subject matter covered by the claims is obvious, the Examiner relies on a fifty-one year old United States Patent and Trademark Office Board of Patent Appeals decision to support the broad proposition that it is always obvious to replace a halogen for a hydrogen. Thus, without conceding that the Examiner has properly characterized

---

<sup>1</sup> The Examiner is urged to independently confirm this recitation of the pending claims.

<sup>2</sup> Office Action, dated June 3, 2008, at pg. 4.

the subject matter disclosed in the cited references or the manner in which they would need to be modified to obtain the subject matter covered by the claims, the Examiner has completely mischaracterized the legal standard of obviousness. To establish that a claimed compound is *prima facie* obvious over a reference compound, the Office must provide some reason as to why a chemist would have modified the reference compound in the manner needed to arrive at the claimed compound(s). *See Takeda Chemical Industries, Ltd. v. Alphapharm Pty., Ltd.*, 492 F.3d 1350, 1356-1357 (Fed. Cir. 2007) (emphasis added)(footnote omitted):

That test for *prima facie* obviousness for chemical compounds is consistent with the legal principles enunciated in *KSR*. While the *KSR* Court rejected a rigid application of the teaching, suggestion, or motivation ("TSM") test in an obviousness inquiry, **the Court acknowledged the importance of identifying "a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does"** in an obviousness determination. *KSR*, 127 S.Ct. at 1731. Moreover, the Court indicated that there is "no necessary inconsistency between the idea underlying the TSM test and the *Graham* analysis." *Id.* As long as the test is not applied as a "rigid and mandatory" formula, that test can provide "helpful insight" to an obviousness inquiry. *Id.* **Thus, in cases involving new chemical compounds, it remains necessary to identify some reason that would have led a chemist to modify a known compound in a particular manner to establish *prima facie* obviousness of a new claimed compound.**

Here, the Examiner has not identified some reason that would have led a chemist to modify Menashi to provide the subject matter covered by the claims. Applicants therefore request that the rejection be withdrawn.

The Examiner also rejected claims 7-9 under 35 U.S.C. § 103(a) as being unpatentable over Menashi in view of Belmont and further in view of Denton et. al., EP 079174 ("Denton"), and the Examiner also rejected claim 23 under 35 U.S.C. § 103(a) as being unpatentable over Menashi in view of Belmont and further in view of Reddy et al., U.S. Patent No. 5,132,193 ("Reddy"). But, for at least the reasons provided in the preceding paragraph, Applicants believe these rejections should be withdrawn.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above

Applicant : Zhigang Qi et al.  
Serial No. : 10/736,480  
Filed : December 15, 2003  
Page : 9 of 9

Attorney's Docket No.: 10964-065001 / 1081

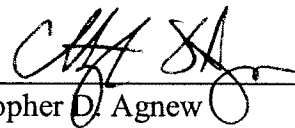
may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to amendment.

Applicants believe the application is in condition for allowance, which action is respectfully requested.

\$60 for the Petition for Extension of Time fee is being paid concurrently herewith on the Electronic Filing System (EFS) by way of Deposit Account Authorization. Please apply any other charges or credits to deposit account 06-1050, referencing Attorney Docket No. 10964-065001.

Respectfully submitted,

Date: 9/22/08

  
\_\_\_\_\_  
Christopher D. Agnew  
Reg. No. 43,464

Fish & Richardson P.C.  
Telephone: (617) 542-5070  
Facsimile: (877) 769-7945